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10-06-14
04:59 PM

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding
Policies, Procedures, and Rules for
Development of Distribution Resources
Plans Pursuant to Public Utilities Code
Section 769.

Rulemaking R.14-08-013

**REPLY COMMENTS OF THE GREEN POWER INSTITUTE
ON RESPONSES TO QUESTIONS IN THE OIR**

October 6, 2014

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REPLY COMMENTS OF THE GREEN POWER INSTITUTE ON RESPONSES TO QUESTIONS IN THE OIR

Pursuant to the August 20, 2014, *Order Instituting Rulemaking*, with a schedule modification granted in a September 19, 2014, email Ruling by ALJ Gamson, in Proceeding R-14-08-013, the **Order Instituting Rulemaking Regarding Policies, Procedures and Rules for Development of Distribution Resources Plans Pursuant to Public Utilities Code Section 769**, the Green Power Institute (GPI), the renewable energy program of the Pacific Institute for Studies in Development, Environment, and Security, provides these *Reply Comments of the Green Power Institute on Responses to Questions in the OIR*. In these Reply Comments we address the Parties' answers to questions posed in the OIR, as well as issues that came up in the September 17, 2014, workshop in this proceeding.

As a preliminary matter, we wish to discuss a key policy issue that needs to be decided as quickly as possible, because the outcome of this decision will have a profound effect on the direction that the DRPs take. The policy issue, which may be addressed in this proceeding or in a different proceeding, concerns the basic approach to determining who will pay for the costs of implementing the DRPs, which are the subject of PUC §769. The current rules for allocating costs are based on maintaining the existing distribution system in a more-or-less static state. Using this model, the costs of system upgrades necessitated by specific DER additions to the grid are charged to the DER project that causes the need for the upgrade.

The DRPs are intended to be plans for transforming the distribution grid from its present, unidirectional design, into a system that is welcoming to widespread proliferation of DERs of a variety of kinds and characteristics. The question is whether this kind of major system overhaul should be considered a shared system expense, or whether the elements of the transition should be charged on a reactive basis to the specific DERs that trigger the need for the upgrades. In the opinion of the GPI, the nature of the transformational changes that

are needed in electric-distribution systems in California is such that the costs of the changes should be considered system costs, and not be charged to individual projects.

In the sections below, we address the answers that other Parties provided to selected questions posed in the OIR.

1) What specific criteria should the Commission consider to guide the IOUs' development of DRPs, including what characteristics, requirements and specifications are necessary to enable a distribution grid that is at once reliable, safe, resilient, cost-efficient, open to distributed energy resources, and enables the achievement of California's energy and climate goals?

In our Opening Comments, the GPI interpreted Question 1 to be the “big picture” question about the DRPs with respect to this round of Comments and Replies. Our own answer was that the overall goal to guide the DRPs is that they need to prepare distribution systems for the distributed world of the future. The three large IOUs appear to interpret the question a good deal more narrowly, and are mainly concerned with who will pay for any necessary upgrades, and how the distribution system will be operated reliably with increased DERs in the system. In the opinion of the GPI, none of the IOUs are focused on using the DRPs as a tool to use to prepare their distribution infrastructure to accommodate and facilitate the expected high-DER systems of the future.

Many of the other Parties agree with the GPI that the purpose of the DRPs is to lay out an overall plan to transition existing distribution infrastructure to the system of the future that will accommodate high penetration of DERs of a variety of kinds. Included in this group are CalSEIA, VoteSolar, the Clean Coalition, NRG, and CAISO. Another group of Parties, including ORA and NRDC, are focused on assessing the costs and benefits of DERs as a guide to determining the criteria to be used for the DRPs. Of course, there is no doubt that the costs and benefits of DERs need to be assessed and accounted for in planning the DER-friendly distribution grid of the future. However, in the opinion of the GPI, we believe that it is most important to use the DRPs mandated by Public Utilities Code § 769 to develop the framework for the architecture of the distribution grid needed in the future, and a plan for how to get there starting with the system that exists today.

Finally, the GPI supports the call of the California Energy Storage Alliance and NRG for greater market transparency with respect to the distribution system, including establishing transparent price signals for all market participants.

3) What specific criteria should be considered in the development of a calculation methodology for optimal locations of DERs?

4) What specific values should be considered in the development of a locational value of DER calculus? What is optimal means of compensating DERs for this value?

Questions 3 and 4 in the OIR probe aspects of how to determine optimal locations for DERs. Public Utilities Code § 769(b)(1) specifies that one of the required components of the DRPs is an evaluation of the locational costs and benefits of DERs on the IOU's distribution system, and the identification of optimal locations for DER installations. There seem to be three distinct approaches for identifying optimal locations in the Opening Comments of the various Parties. The first approach is to identify sections of the distribution grid that have surplus capacity, and designate these sections as optimal locations for DER development. The second approach is to locate sections of the distribution grid that are in need of the kinds of energy and ancillary services that DER can provide, and designate these sections as optimal locations for DERs. The third approach is to base the determination on consumer choice.

In the opinion of the GPI, the determination of optimal locations for DERs is a highly complex issue, not the least because DERs cover a broad range of technologies and services, and there is no reason to expect that an optimal location for one kind of DER will necessarily be optimal for other kinds of DER. For example, some kinds of DER provide power to the distribution grid, while other kinds reduce load on the grid. There is no reason to believe that an optimal location for power generators will also be optimal for demand-reduction technologies, although that could be the case in some situations.

As we see it, there are two fundamentally different approaches that can be pursued in developing a methodology for identifying optimal locations for DER installations. One approach is to assess the state of the distribution system as it exists today, and identify

sections of the grid that can accommodate DER additions without needing to be upgraded, and sections that already are stressed and can benefit from the presence of DERs, including avoiding the need for conventional upgrades. The alternative approach is to identify sections of the distribution grid on which there is a strong likelihood of widespread consumer demand for DERs, and upgrade the systems accordingly. The first approach tries, in effect, to shoehorn DERs into the existing distribution grid at the lowest possible cost in terms of having to upgrade the distribution system. The second approach attempts to prepare the distribution grid in order to facilitate the expected consumer-driven marketplace of the future. Stated another way, the first approach attempts to guide the placement of DERs in accordance with the needs of the existing system, while the second approach attempts to guide the development of the distribution system in accordance with serving the needs of the expected consumer-driven DER build-out.

The two approaches can be used in conjunction with each other, in order to gain a range of perspectives into the desirable future configuration of the distribution system. However, in the opinion of the GPI, the considerable opportunity that the DRPs provide is to allow the IOUs to take a long-term perspective as to what they and their customers want their distribution systems to become, and then to make plans for how to get from here to there. When there are conflicts between the shoehorn approach and the customer-driven approach, the GPI strongly favors the customer-driven approach as a matter of principle.

In their Opening Comments, the three IOUs appear to favor the first approach, which is to encourage DER development in ways that will benefit the existing grid. In particular, this means identifying sections of the distribution grid that have excess wires capacity, and directing developers of DER generators accordingly. On the topic of optimal locational values, SCE appears to be the most forward thinking of the three IOUs. In addition to wanting to direct developers to portions of the distribution system with surplus capacity, SCE also acknowledges the value that DERs can provide with respect to meeting local capacity requirements, and operational optimization of the grid.

With respect to determining optimal locations for DER installations, we wish to echo a couple of important points made in the Opening Comments of several of the Parties. The CA Storage Alliance and NRG make the point that the most important thing that could come out of the effort to determine locational values for DER would be a transparent marketplace with strong price signals. We agree. We also agree with Solar City and the Bioenergy Association that while incentives based on locational values can be used effectively, it is important to ensure that projects that are located outside of officially-identified optimal locations, some of which do not have locational flexibility, are not punished on account of their proposed locations.

7) What types of benefits should be considered when quantifying the value of DER integration in distribution system planning and operations?

There is broad agreement that the electrical benefits of DER integration should be considered in the DRPs, including:

- voltage and var support
- peak shaving
- demand smoothing
- reductions in local capacity needs
- avoided and/or deferred distribution infrastructure costs
- frequency stabilization
- regulation
- avoided and/or deferred conventional (fossil) generation
- contribution of RA value

Several Parties, including the Bioenergy Assoc. and Enernoc, suggested that non-electrical benefits, mainly environmental benefits, should also be considered in quantifying the value of DER integration. The GPI strongly agrees. Some of the important non-electrical benefits that should be considered include:

- the environmental and health benefits of avoiding fossil generation
- reduced emissions of greenhouse gases
- reduced wildfire risk by improved forest management
- improved waste disposal for wastes and residues that can be converted to energy products

8) What criteria and inputs should be considered in the development of scenarios and/or guidelines to test the specific DER integration strategies proposed in the DRPs?

The most important criterion that should be used to guide the development of scenarios for use in the DRPs is that they should provide a sufficiently wide range of possible futures that the results can be compared and contrasted.

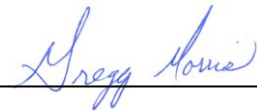
We wish to endorse CalSEIA's Opening Comments on this issue, in which they argue that in preparing the DRPs, the IOUs should use scenarios to drive the DRPs, not to analyze them after they are essentially completed. In effect the DRPs should be treated as planning tools to serve the needs of the various scenarios under consideration.

10) Should the DRPs include specific measures or projects that serve to demonstrate how specific types of DER can be integrated into distribution planning and operation? If so, what are some examples that IOUs should consider?

In our Opening Comments, the GPI suggested that the DRPs would indeed be an appropriate place for including demonstration projects in various pre-commercial situations. We note that ORA also believes that the DRPs should be used by the utilities as a place to propose appropriate pilot and demonstration projects.

We also reiterate our concern that Plug-in Electric Vehicles (PEVs) are given the full attention they deserve in the DRPs. The PEV transformation is starting, and the DRPs are a crucial part of this transition to a non-petroleum future.

Dated October 6, 2014
Respectfully Submitted,

A handwritten signature in blue ink, appearing to read "Gregg Morris", is written over a horizontal line.

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